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EXAMINER	
NGUYEN, SON XUAN	

ART UNIT	PAPER NUMBER
2664	

DATE MAILED: 11/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/848,994	MO ET AL.	
	Examiner	Art Unit	
	SON X. NGUYEN	2664	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05/04/2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *04 May 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

In page 22 line 3, there appears to be a typographical error and "GS class 148" should be "GS class 140".

In page 26 line 13, there appears to be a typographical error and "local buffer 154" should be "local buffer 152".

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before

November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Jacob W. Jorgensen (U.S 6,452,915) hereinafter referred to as Jacob.

Regarding claim 1, Jacob discloses a method for transporting traffic having disparate qualities of service across a packet-switch network, comprising: receiving at an ingress point (wireless base station 302 of Figure 2D) of a network a plurality of packets (flow packet from data network 142 of Figure 15 A) each comprising a quality of service (QoS) class defined externally to the network (lines 52-62 of column 47); combining packets having a QoS class comprising delay bound guarantees and a low drop priority into a first internal QoS class (Latency-sensitive UDP priority 812a and high priority 812b in lines 43-51 of column 48); combining packets having a QoS class comprising a flexible drop priority and no delay bound guarantees into a second internal QoS class (intermediate priority 812c , initial hypertext transfer protocol screens priority 812d and latency neutral priority 812e in lines 43-51 of column 48); combining packets having a QoS class comprising no delivery guarantees into a third internal QoS class (file transfer protocol, simple mail transfer protocol, other e-mail traffic priority 812f and low priority 812g in lines 43-51 of column 48); and transporting the packets through the network based on their internal QoS classes (Frame scheduler 1550, 1552 and QoS class Queuing Processor 1562 of Figure 15A).

Regarding claim 2, Jacob discloses the first internal QoS class comprises a guaranteed service class, further comprising combining into the guaranteed service class packets having an externally defined integrated services guaranteed service QoS and a differentiated services expedited forwarding QoS (Latency-sensitive UDP priority 812a and high priority 812b provide low loss, low latency, low jitter and assured bandwidth end-to-end service).

Regarding claim 3, Jacob discloses the second internal QoS class comprises a control load class, further comprising combining into the control load class packets having an externally defined integrated services control load QoS and a differentiated services assured forwarding 1, 2 and 3 QoS (intermediate priority 812c, initial hypertext transfer protocol screens priority 812d and latency neutral priority 812e provide traffic with no delay bound and flexible drop priority in accordance with the corresponding defined service classes).

Regarding claim 4, Jacob discloses the third internal QoS class comprises a best-effort class, further comprising combining into the best-effort class packets having a differentiated services assured forwarding 4 QoS and a differentiated services best-effort QoS (file transfer protocol, simple mail transfer protocol, other e-mail traffic priority 812f and low priority 812g provide no latency limits or reservation).

Regarding claim 5, Jacob discloses the packets combined into the first internal QoS class comprise low latency delay-bound guarantees (lines 54-59 of column 48).

Regarding claim 6, Jacob discloses generating a label for each packet including the internal QoS class for the packet and transporting the packet through the network using the label (Subscriber ID 1234b and IP-Flow identifier 1234c of Figure 12E; and lines 50-58 of column 53).

Regarding claim 7, Jacob discloses the packets comprise internet protocol (IP) packets (lines 51-52 of column 47).

Regarding claims 8 and 9, Jacob discloses packets combined into the first internal QoS class comprise real-time data and real-time voice data (real-time data and voice data are very sensitive to delay and jitter, so it is obvious that Latency-sensitive UDP priority 812a and high priority 812b provide real-time data and voice data).

Regarding claim 10, Jacob discloses a system for transporting traffic having disparate qualities of service across a packet-switch network, comprising: means for receiving at an ingress point (wireless base station 302 of Figure 2D) of a network a plurality of packets (flow packet from data network 142 of Figure 15A) each comprising a quality of service (QoS) class defined externally to the network (lines 52-62 of column 47); means for combining packets having a QoS class comprising delay bound guarantees and a low drop priority into a first internal QoS class (IP flow analyzer 602 of Figure 8A; and Latency-sensitive UDP priority 812a, high priority 812b in lines 43-51 of column 48); means for combining packets having a QoS class comprising a flexible drop priority and no delay bound guarantees into a second internal QoS class (IP flow analyzer 602 of Figure 8A; and intermediate priority 812c , initial hypertext transfer protocol

screens priority 812d and latency neutral priority 812e in lines 43-51 of column 48); means for combining packets having a QoS class comprising no delivery guarantees into a third internal QoS class (IP flow analyzer 602 of Figure 8A; and file transfer protocol, simple mail transfer protocol, other e-mail traffic priority 812f and low priority 812g in lines 43-51 of column 48); and means for transporting the packets through the network based on their internal QoS classes (Frame scheduler 1550, 1552 and QoS class Queuing Processor 1562 of Figure 15A).

Regarding claim 11, Jacob discloses the first internal QoS class comprises a guaranteed service class, further comprising means for combining into the guaranteed service class packets having an externally defined integrated services guaranteed service QoS and a differentiated services expedited forwarding QoS (Latency-sensitive UDP priority 812a and high priority 812b provide low loss, low latency, low jitter and assured bandwidth end-to-end service).

Regarding claim 12, Jacob discloses the second internal QoS class comprises a control load class, further comprising means for combining into the control load class packets having an externally defined integrated services control load QoS and a differentiated services assured forwarding 1, 2 and 3 QoS (intermediate priority 812c, initial hypertext transfer protocol screens priority 812d and latency neutral priority 812e provide traffic with no delay bound and flexible drop priority in accordance with the corresponding defined service classes).

Regarding claim 13, Jacob discloses the third internal QoS class comprises a best-effort class, further comprising means for combining into the best-effort class packets having a differentiated services assured forwarding 4 QoS and a differentiated services best-effort QoS (file transfer protocol, simple mail transfer protocol, other e-mail traffic priority 812f and low priority 812g provide no latency limits or reservation).

Regarding claim 14, Jacob discloses the packets combined into the first internal QoS class comprise low latency delay-bound guarantees (lines 54-59 of column 48).

Regarding claim 15, Jacob discloses means for generating a label for each packet including the internal QoS class for the packet and transporting the packet through the network using the label (Subscriber ID 1234b and IP-Flow identifier 1234c of Figure 12E; and lines 50-58 of column 53).

Regarding claim 16, Jacob discloses the packets comprise internet protocol (IP) packets (lines 51-52 of column 47).

Regarding claims 17 and 18, Jacob discloses packets combined into the first internal QoS class comprise real-time data and voice data (real-time data and voice data are very sensitive to delay and jitter, so it is obvious that Latency-sensitive UDP priority 812a and high priority 812b provide real-time data and voice data).

Regarding claim 19, Jacob discloses a system for transporting traffic having disparate qualities of service across a packet-switch network, comprising: logic encoded in media (lines 10-26 of column 13); and the logic operable to

receive (wireless base station 302 of Figure 2D) at an ingress point of a network a plurality of packets (flow packet from data network 142 of Figure 15A) each comprising a quality of service (QoS) class (lines 52-62 of column 47) defined externally to the network, to combine packets having a QoS class comprising delay-bound guarantees and a low drop priority into a first internal QoS class (Latency-sensitive UDP priority 812a, high priority 812b in lines 43-51 of column 48), to combine packets having a QoS class comprising a flexible drop priority and no delay bound into a second internal QoS class (intermediate priority 812c , initial hypertext transfer protocol screens priority 812d and latency neutral priority 812e in lines 43-51 of column 48), and to combine packets having a QoS class comprising no delivery guarantees into a third internal QoS class (IP flow analyzer 602 of Figure 8A; and file transfer protocol, simple mail transfer protocol, other e-mail traffic priority 812f and low priority 812g in lines 43-51 of column 48).

Regarding claim 20, Jacob discloses a local interface for a packet-switched network node, comprising: a port operable (wireless base station 302 of Figure 2D) to receive a plurality of packets (flow packet from data network 142 of Figure 15A) each comprising a quality of service (QoS) class (lines 52-62 of column 47) defined externally to a network of the node and to combined packets having QoS classes comprising delay-bound guarantees and a low drop priority into a first internal QoS class (Latency-sensitive UDP priority 812a, high priority 812b in lines 43-51 of column 48), to combine packets having a QoS class comprising a flexible-drop priority and no delay bound guarantees into a second

internal QoS class (intermediate priority 812c , initial hypertext transfer protocol screens priority 812d and latency neutral priority 812e in lines 43-51 of column 48) and to combine packets having a QoS class comprising no delivery guarantees into a third QoS class (file transfer protocol, simple mail transfer protocol, other e-mail traffic priority 812f and low priority 812g in lines 43-51 of column 48) and to buffer the packets in buffers corresponding to their internal QoS classes (QoS Class Queues 1564a-f of Figure 15B); and a scheduler operable to schedule transmission of the packets out of the buffers for transmission over the network based on their internal QoS class (Frame scheduler 1550, 1552 and QoS class Queuing Processor 1562 of Figure 15A).

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a) Nima Ahmadvand (U.S 6,477,670), data link layer quality of service for UMTS.

b) Ganmukhi et al. (U.S 5,850,399), Hierrarchical packet scheduling method and apparatus.

c) Fawaz et al. (U.S 6,654,374), Method and apparatus to reduce Jitter in packet switched networks.

d) Gross et al. (U.S 6,765,905), Method for reducing packet data delay variation in an internet protocol network.

e) Chester Ruszczyk (U.S 6,205,150), Method of scheduling higher and lower priority data packets.

f) Jacob Jorgensen (U.S 6,590,885) IP-flow classification in a wireless point to multi-point (PTMP) transmission system.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to SON X. NGUYEN whose telephone number is 571-272-6048. The examiner can normally be reached on 8 AM -5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on 571-272-3139. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).